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REPORT NO. 8

U.S. DEPARTMENT OF AGRICULTURE

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Cotton Fiber and Processing Test Results

CROP of

1976



Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 December 17, 1976

These reports are published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.^{1/} These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

^{1/} Summary of Cotton Fiber and Processing Test Results, Crop of 1975,
USDA, AMS, Cotton Division, May 1976.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1976

Discussion of Test Results

Short staple cottons tested through December 10 from the Southwestern area are slightly shorter, coarser and weaker than a year earlier, according to the Cotton Division, Agricultural Marketing Service, USDA. Shirley Analyzer nonlint content is slightly lower, while picker and card waste is higher than a year ago. Yarns spun from these samples are weaker but have fewer imperfections. Spinning potential is lower.

Average test results for all medium staple samples show fibers to be shorter, finer and stronger than a year earlier. Shirley Analyzer nonlint content is lower, while picker and card waste is higher this season. Yarns are slightly stronger and have fewer imperfections. The average spinning potential is slightly lower.

Medium staple samples tested from the Southeast show fibers to be about the same length, more uniform, coarser and stronger. Shirley Analyzer nonlint content is lower, while picker and card waste is higher. Yarns spun from these samples are stronger and have higher appearance grades. Imperfections are fewer and the spinning potential is higher.

Medium staple samples from the South Central states are shorter and less uniform than a year ago. Cottons are finer and stronger at zero gage strength tests. Shirley Analyzer nonlint content is lower, while picker and card waste is higher this year. Yarns spun from these samples are stronger, but have lower appearance grades. Imperfections are fewer. The average spinning potential yarn number is lower.

Southwestern medium staple samples tested to date have slightly more uniform, coarser and weaker fibers at zero gage strength tests. Shirley Analyzer nonlint content is lower, while picker and card waste is higher than a year ago. Yarns are stronger and have higher appearance grades and fewer imperfections. Spinning potential is higher.

Medium staple samples tested from the West have the same fiber length as a year ago. Fibers are finer and weaker at zero gage tests. Shirley Analyzer nonlint content is lower, while picker and card waste is higher. Yarns spun from these samples are weaker and have lower appearance grades. Yarn imperfections are fewer. Spinning potential is down from that of a year ago.

Average test results for all long staple samples show fibers to be longer, more uniform and a little coarser than a year ago. Shirley Analyzer nonlint content is lower. Both picker and card waste and comber waste are lower than a year ago. Yarns spun from these samples are stronger for both carded and combed yarns. Carded appearance grades are lower this year. Both carded and combed yarns show fewer imperfections. Spinning potential yarn number is higher.

Long staple samples from the Southeast are longer, more uniform and coarser than a year ago. Fiber strength is higher. Shirley Analyzer nonlint content is lower. Both picker and card waste and comber waste are lower than a year ago. Yarn strength is higher for both carded and combed yarns. Appearance grades average slightly lower for carded yarns and higher for combed yarns. Imperfections are fewer. Spinning potential yarn number is much higher than a year ago.

Long staple samples from the South Central states have longer, finer and stronger fibers than a year ago. Shirley Analyzer nonlint content is lower. Picker and card waste is lower, while comber waste is higher than a year earlier. Yarns spun from these samples are stronger. Appearance grades are lower. Spinning potential yarn number is lower.

American Pima samples tested through December 10 this season have slightly shorter, finer and stronger fibers than last season. Shirley Analyzer nonlint content is higher. Both picker and card waste and comber waste are lower than a year ago. Yarn quality is about the same as a year ago.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through December 10, 1976 1/

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results					
		Fibrograph		Mike fine- ness	Fiber strength		S A nonlint	P & C waste	Yarn quality		Spin. Potent.		
		2.5% span	50/2.5 unif.		Pct.	Rdg.			Mpsi	G/tex		Skein str.	Appearance
				Inches			Pct.	Pct.			Lbs.		
Short Staple:													
Southwest													
1975	24	0.96	45	4.0	89	22	3.3	6.3	98	112	15	42	
1976	23	0.95	45	4.5	85	21	3.2	7.1	85	111	13	35	
Medium Staple:													
Southeast													
1975	34	1.07	44	4.2	83	22	3.8	6.1	97	97	26	52	
1976	33	1.07	45	4.6	86	23	3.2	6.3	106	100	20	56	
South Central													
1975	104	1.10	45	4.4	85	23	3.1	5.5	105	102	21	59	
1976	102	1.08	44	4.2	88	23	2.7	6.2	108	99	16	55	
Southwest													
1975	26	1.07	44	4.0	82	22	3.4	5.4	102	92	29	56	
1976	30	1.07	45	4.1	81	22	3.3	6.4	104	95	22	57	
West													
1975	52	1.12	45	4.2	93	26	2.3	5.3	124	94	23	69	
1976	40	1.12	45	4.1	90	26	2.2	5.6	121	90	19	68	
U.S. Average													
1975	216	1.10	45	4.3	86	23	3.0	5.5	108	98	23	60	
1976	205	1.08	45	4.2	87	24	2.8	6.1	109	98	18	58	
Significant dif- ference 2/													
		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3	

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States
through December 10, 1975

1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results								
		Length		Mike	Strength		SA Non- lint	P&C Waste	Comber Waste	Yarn Quality				SPY		
		Span	Unif		Zero gage	1/8" gage				Strength carded	Appearance carded	Imprfctns card	comb			
	No.	In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Pct.	Lbs.	Lbs.	Indx	Indx	No.	No.	
Long Staple: Southeast										22s Carded & Combed Yarn						
	13	1.10	43	4.2	85	23	3.6	9.7	18.6	91	116	107	116	22	12	
	7	1.15	45	4.4	87	25	2.9	6.3	15.7	118	139	106	120	19	8	
South Central	6	1.11	43	4.1	88	23	3.8	9.2	18.1	104	125	110	120	19	9	
	3	1.12	42	3.7	91	26	3.4	6.8	20.3	109	137	97	103	13	10	
West	9	1.15	45	3.5	95	27	2.2	7.5	15.4	139	159	94	107	27	14	
	1	1.20	48	3.8	89	26	2.9	6.4	11.8	147	162	90	100	30	12	
U.S. Average	28	1.12	44	4.0	89	24	3.2	8.8	17.4	109	132	104	114	23	12	
	11	1.15	45	4.2	88	26	3.0	6.5	16.6	118	140	102	114	19	9	
Array										50's Combed Yarn						
American Pima																
Extra Long Staple: West	3	1.47	30	3.9	102	34	2.3	7.6	17.7	64			113	2		
	5	1.46	30	3.7	103	34	2.5	6.0	16.0	63			112	2		
Significant Difference 2/	0.02	2	0.2	2	1	0.5	0.5	0.5	0.5	4(22s)	5	5	2	2	3	
										4(22s)	2(50s)					

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1976

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns													
No	Grade	Name & Code	Stple 32s	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-lint		Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potent-ial				
				2.5% span	Unif		Zero Gage	1/8" Gage		Pct	Mpsi	G/tex	Pct		Pct	Gra	Yel	Pct	Lbs	Lbs	8s or 74 tx	22sor 27 tx		8s or 74 tx	22sor 27 tx	8s or 74 tx	22sor 27 tx
SOUTHWEST AREA																											
NORTHWEST TEXAS																											
BURKBURNETT																											
1	SLM	41	31	0.95	46	5.1	92	21	LANKART LX571	5.4	1.8	2	3	6.8	269	84	5.8	4.8	130	110	22	10	36				
LAPESA																											
1	MID LT SP	32	31	0.95	45	4.6	87	21	BLIGHTMASTER A5	6.4	3.7	2	3	6.8	266	84	7.4	5.9	130	110	23	14	35				
LCKNEY																											
1	MID LT SP	32	29	0.85	48	5.2	83	19	PAYMASTER 18	6.4	2.4	2	4	7.6	248	69	6.0	4.9	120	100	33	15	11 1/2				
LOOP																											
1	SLM LT SP	42 1/2	29	0.91	47	5.1	84	21	PAYMASTER 18	6.1	2.9	2	4	7.1	257	82	6.3	5.3	130	120	29	14	32				
LORENZO																											
1	MID SP	33	31	0.99	42	3.1	83	21	PAYMASTER 909	6.3	2.6	3	5	5.5	309	102	7.9	6.8	130	130	22	12	51				
SILVERTON																											
1	MID LT SP	32	30	0.89	47	4.6	87	20	PAYMASTER 18	6.6	2.5	2	5	5.5	290	92	6.8	5.9	130	120	21	10	35				
TULIA																											
1	SLM LT SP	42	30	0.90	48	4.4	88	22	STRIPPER 31	6.5	3.6	2	4	8.0	297	95	6.9	6.2	130	110	17	11	36				
OKLAHOMA																											
GRANDFIELD																											
1	SLM LT SP	42	30	0.95	47	5.3	87	21	LANKART 57	6.3	3.8	3	4	7.8	265	80	6.3	4.8	130	110	24	12	35				

1/ Below spinnable limits

2/ Reduced from 32 because of grass

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976

Production Area, Classification				Fiber Test Results										Processing Test Results - Carded Yarns										
Sample Number				Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Potential		
No	Grade	Stple	32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	Gra	Yel	Pct	Lbs	Lbs	Pct	Pct	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx			
SOUTHEAST AREA																								
ALABAMA																								
43	BELLE MINA	3	34	1.05	45	4.1	84	22	7.1	3.9	3	4	6.9	107	36	6.4	5.0	100	80	24	18	62		
HAZEL GREEN																								
42	3 SLM LT SP	33	1.04	45	4.4	81	21	6.9	3.3	2	4	7.1	96	29	5.9	4.1	100	80	17	16	49			
MERIDIANVILLE																								
42	2 SLM LT SP	33	1.02	44	4.3	89	22	5.6	3.3	3	4	6.3	92	26	5.2	3.5	90	80	21	18	44			
NCRTHPORT																								
41	2 SLM	34	1.10	44	4.5	84	23	7.3	1.8	1	2	5.6	110	35	6.3	4.4	100	70	15	13	58			
SCOTTSBORO																								
43	2 SLM SP	34	1.08	45	4.1	83	22	6.5	2.5	3	4	5.7	114	39	5.9	4.8	100	90	17	14	67			
NORTH CAROLINA																								
42	LAURINBURG	3	35	1.10	47	4.4	87	24	6.4	5.4	2	3	7.6	114	40	5.9	4.7	90	60	31	22	63		
SHELBY																								
42	2 SLM LT SP	34	1.03	47	4.6	86	22	6.2	2.7	3	4	7.6	102	31	5.5	3.9	110	90	12	11	53			
SOUTH CAROLINA																								
41	BLACKVILLE	2	34	1.07	45	4.8	86	24	5.9	2.5	1	2	6.1	102	33	5.5	4.1	90	90	20	14	53		
CHESTER																								
42	2 SLM LT SP	34	1.05	44	4.3	90	23	5.9	3.3	3	3	6.6	110	36	5.6	4.3	100	80	22	14	58			
MAYESVILLE																								
33	3 MID SP	35	1.13	46	4.4	84	23	6.2	2.9	3	5	5.9	109	35	5.9	4.5	90	70	20	17	60			
SOUTH CENTRAL AREA																								
ARKANSAS																								
41	ALTHEIMER	3	35	1.14	43	3.9	86	24	7.3	3.3	1	2	5.6	112	37	5.4	4.7	90	70	16	13	61		
DUMAS																								
41	3 SLM	35	1.11	45	4.3	87	23	6.0	2.7	2	2	6.0	109	35	5.4	4.4	100	70	19	16	58			

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--(Continued)

Production Area, Classification & Sample Number				Fiber Test Results					Processing Test Results - Carded Yarns														
No	Grade	Stple	32s In	Digital Fibrograph	Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation	Appearance Index		Imprfct'ns		Spin. Potential			
				2.5% span		Unif.	Pct			In	Zero		Gage	Gra		Yel	22s or 27 tx	Lbs	Pct		22s or 27 tx	50s or 12 tx	22s or 27 tx
SOUTH CENTRAL AREA--(Continued)																							
MISSISSIPPI--(Continued)																							
SUNFLOWER																							
2	SLM	41	33	1.01	47	4.7	90	23	5.9	2.4	2	2	6.9	100 PERCENT	97	29	5.3	3.5	110	90	15	11	44
TRIBBETT																							
2	LM	51	34	1.05	47	5.0	89	25	5.7	4.0	3	2	6.1	100 PERCENT	103	32	5.5	4.0	90	90	16	11	56
WATER VALLEY																							
3	SLM	41	33	1.00	43	3.8	83	23	7.1	3.2	1	2	7.1	90 PERCENT	98	29	6.1	3.9	90	70	22	17	43
MISSOURI																							
BELL CITY																							
3	SLM LT SP	42	34	1.06	42	3.7	86	23	6.1	2.9	3	4	7.2	100 PERCENT	106	35	6.3	4.6	90	60	21	14	58
CATRON																							
2	LM LT SP	52	34	1.02	43	3.4	89	22	5.8	5.3	3	3	9.1	100 PERCENT	99	32	5.4	3.7	100	70	20	12	53
SENATH																							
3	LM	51	34	1.05	43	3.6	81	22	6.5	4.7	3	2	6.9	100 PERCENT	100	31	6.3	4.4	80	70	25	18	55
SOUTHWEST AREA																							
NORTHWEST TEXAS																							
HALE CENTER																							
1	SLM LT SP	42 1/2	32	0.97	47	4.0	84	22	7.4	2.7	2	4	6.7	70 PERCENT	98	31	5.3	4.7	90	80	16	12	44
LUBBOCK																							
1	LM LT SP	52 1/2	35	1.12	45	3.4	85	24	6.2	5.1	3	5	8.8	100 PERCENT*	108	37	5.3	4.6	70	60	58	42	53
LUBBOCK																							
1	SLM LT SP	42 1/2	34	1.08	44	3.5	85	23	6.2	4.3	2	4	7.8	100 PERCENT*	115	39	6.3	4.3	70	60	41	29	61
WEST AREA																							
ARIZONA																							
BUCKEYE																							
2	SLM	41	35	1.08	44	4.9	86	23	6.2	2.0	2	3	5.7	100 PERCENT	96	27	5.3	3.5	90	70	17	15	47
CASA GRANDE																							
2	MID	31	36	1.14	45	4.8	80	22	7.3	1.8	0	2	5.6 3/4	93 PERCENT	104	34	6.3	4.5	100	80	14	12	55

* 100% selected for tests, less than 100% in area

^{1/} Reduced from 32 because of bark^{2/} Reduced from 42 because of bark^{3/} Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--(Continued)

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns											
No	Grade	Name & Code	Stple	32s		Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint		Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect's		Spin. Potent- tial
				In	Pct	2.5% span	Unif.		Zero Gage	1/8" Gage		Pct	Pct	Gra	Yel		Lbs	Lbs	Pct	Pct	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
WEST AREA--(Continued)																									
ARIZONA--(Continued)																									
MOHAVE VALLEY																									
1	SLM	41	34	1.10	43	4.5	87	21	5.2	2.6	2	3	6.0	100 PERCENT		79	23	4.7	3.0	90	60	20	16	42	
RCLL																									
2	SLM	41	35	1.11	44	4.5	83	23	7.1	2.5	1	3	6.8	95 PERCENT		100	32	5.9	4.2	80	60	22	16	53	
CALIFORNIA																									
CARUTHERS																									
2	SLM PLUS	40	36	1.11	46	4.0	96	27	5.5	2.2	1	2	5.4	100 PERCENT		131	44	6.0	4.4	90	90	13	14	72	
CHOMCHILLA																									
2	SLM	41	36	1.10	46	4.3	97	27	5.8	2.3	0	2	6.3	92 PERCENT		135	46	6.0	4.6	100	80	13	9	73	
COAL INGA																									
2	SLM	41	35	1.13	43	3.2	92	27	6.4	2.0	1	2	6.6	100 PERCENT		135	47	6.3	5.0	90	60	16	16	82	
FIREBAUGH																									
2	SLM PLUS	40	36	1.15	47	4.2	93	27	5.8	2.4	1	2	6.2	98 PERCENT		127	44	5.7	4.6	90	80	20	14	72	
FIVE POINTS																									
2	SLM	41	36	1.17	47	4.0	89	26	6.0	2.5	1	2	5.2	96 PERCENT		133	48	6.0	4.7	100	80	14	11	80	
HURON																									
2	SLM PLUS	40	35	1.13	45	3.9	92	27	6.0	1.9	0	2	5.2	100 PERCENT		132	48	6.0	4.6	80	70	23	16	79	
KERNAN																									
2	SLM	41	36	1.13	47	4.1	95	27	6.0	1.9	1	2	5.9	85 PERCENT		134	46	6.5	5.0	90	80	18	16	81	
LOST HILLS																									
2	MID	31	35	1.10	43	3.8	91	26	5.8	2.1	1	2	4.4	99 PERCENT		120	43	5.2	4.4	90	70	18	12	67	
LCST HILLS																									
2	SLM	41	36	1.13	46	3.8	95	28	6.4	2.0	1	3	5.9	100 PERCENT		139	49	6.4	5.2	90	70	22	17	82	
SHAFTER																									
1	SLM	41	35	1.12	47	4.4	99	28	5.6	1.8	1	3	5.1	100 PERCENT		130	45	6.1	4.6	80	60	25	19	74	
2	SLM	41	35	1.13	45	3.8	88	26	6.1	2.5	1	2	5.4	100 PERCENT		125	43	6.2	4.4	80	60	25	20	72	
TULARE																									
2	SLM	41	36	1.09	44	3.7	97	27	5.7	2.3	1	3	5.4	100 PERCENT		133	47	6.1	4.7	90	70	17	12	78	

1/ Cotton stuck to processing rolls

Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1976

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns										Spin. Potential	
No	Grade	Name & Code	Stple	Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Comber and Waste	Strength		Elongation		Appearance Index		Imprfect'ns					
				2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx				
				In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No			
SOUTHEAST AREA																									
GEORGIA																									
MADISON																									
2	SLM	LT SP	42	35	1.14	45	4.5	84	23	6.2	3.7	3	3	7.1	112	36	5.5	4.2	100	90	15	13	59		
												*	15.1	131	46	6.4	4.9	120	100	10	6				
SOUTH CENTRAL AREA																									
MISSISSIPPI																									
LAKE CORMORANT																									
3	SLM		41	35	1.12	43	3.7	92	24	5.6	4.1	2	2	7.3	104	33	5.3	3.8	90	60	27	18	56		
												*	19.2	134	47	6.3	4.7	100	80	13	11				
WEST AREA																									
NEW MEXICO																									
TULAROSA																									
1	SLM	PLUS	40	37	1.20	48	3.8	89	26	6.3	2.9	1	2	6.4	147	53	6.7	5.5	90	70	30	22	103		
												*	11.8	162	63	7.1	5.8	100	90	12	9				

* Comber Waste and Combed Yarn Data

Table 5 --Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1976

Production Area, Classification & Sample Number				Fiber Test Results							Processing Test Results - Combed Yarns																														
Grade		Stple	Array Length		Mike	Fiber Strength	Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Waste	Comber Waste	Strength		Elongation		Appearance Index		Imprfct'ns																						
No	Name & Code		UQL	CV					Gra	Yel			50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx																					
				32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Pct	Lbs	Lbs	Pct	Pct	No	No																				
																						PIMA S-5		100 PERCENT																	
ARIZONA		4		44	1.48	33	3.6	106	34	7.1	2.5	4	5	5.5	16.4	64	35	5.2	4.6	110	110	1	2																		
WENDEN		3		44	1.44	31	3.4	100	33	7.5	2.4	4	6	6.8	16.2	64	35	5.8	4.8	120	120	2	0																		
NEW MEXICO																																									
COLUMBUS																																									